## Appendix A
## Marked Up Version of the Entire Claim Set

Please amend claims 26-46 as follows:

26. (Amended) A method of location management in a mobile telecommunication system comprising [mobile subscribers] mobile stations, at least one core network providing telecommunication services, and a radio access network providing connections between the mobile stations and the core network, and in which system information concerning the location of [a] the mobile station is stored in the radio access [system] network, [characterized in that] comprising

tracking in the radio access [system uses a location area configuration to track] network of the location of the mobile station [on] to the accuracy of [one] a location area,

determining in the core network a [service] reporting area comprising at least one location area,

informing the radio access network by the core network of the [service] reporting area determined,

receiving [by] at the radio access network a location update from a mobile station,

determining by the radio access network based on the location update whether or not the mobile station has [exceeded the border of] moved out of the [service] reporting area, and

sending by the radio access network to the core network a report if the mobile station has [exceeded the border] moved out of the reporting area.

27. (Amended Twice) [ A ] The method according to claim 26, wherein a plurality of location accuracy levels is defined, each location accuracy level having location areas of different sizes, and the radio access network selects one of these accuracy levels to be used for tracking the mobile station.

28. (Amended Twice) [ A ] The method according to claim 27, wherein the reporting area is a location area of one location accuracy level.

29. (Amended twice) [ A ] The method according to claim 27, wherein the radio access network selects the location accuracy level based on the services [the mobile] currently used by a subscriber [is currently] using the mobile station.

30. (Amended Twice) [ A ] The method according to claim 27, wherein the radio access network selects the location accuracy level based on service parameters given by the core network.

31. (Amended Twice) [ A ] The method according to claim 27, wherein the radio access network selects the location accuracy level based on the past behavior of [the mobile] a subscriber using the mobile station.

32. (Amended Twice) [ A ] The method according to claim 31, wherein the behavior of the subscriber is determined based on the number of pages that the radio access network has performed to locate the mobile station and the number of location updates that the mobile station has performed.



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33. (Amended Twice) [ A ] The method according to claim 27, wherein the radio access network informs the mobile station of the location accuracy level to be used when tracking the mobile station.

34. (Amended twice) [ A ] The method according to claim 26, wherein the core network requests that a mobile station reauthenticates itself when the mobile [phone] station moves to a new reporting area.

35. (Amended Twice) [ A ] The method according to claim 26, wherein the mobile station is entitled to different services in different reporting areas.

36. (Amended Twice) [ A ] The method according to claim 26, wherein the mobile station is entitled to different qualities of service in different reporting areas.

37. (Amended Twice) [ A ] The method according to claim 26, wherein the core network and the radio access network negotiate the size of the reporting area to be used.

38. (Amended Twice) [ A ] The method according to claim 37, wherein the negotiation takes place when the service is activated.

39. (Amended Twice) [ A ] The method according to claim 37, wherein the negotiation takes place when the service is in an activated state.



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40. (Amended twice) [ A ] The method according to claim 26, wherein the service parameters for different service areas for the services [the mobile] a subscriber using the mobile station has subscribed to are specified and stored in the core network,

the mobile station [of the subscriber] initiates a location update [procedure] process when entering into a new reporting area,

in response to having received the location update [message], the radio access network forwards the new location information of the mobile station to the core network,

the core network receives the new location information and defines [the] a new service area [of] for the subscriber, checks the service parameters of services the [mobile] subscriber is entitled to in the new service area, and sends the radio access network information about the new service parameters,

the radio access network receives the information about the new service parameters and completes the location update [procedure] process by sending the mobile station [an answer] a response.

41. (Amended twice) [ A ] The method according to claim 26, wherein information about [service] reporting area configuration is stored in the mobile station, and when entering a new service area, the mobile station initiates a location update [procedure] process, instructing the radio access network to forward the new location information to the core network, and

the radio access network forwards the location information to the core network.



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42. (Amended Twice) [ A ] The method according to claim 41, wherein the information about the service area configuration is given as a list of cells.

43. (Amended twice) [ A ] The method according to claim 41, wherein the information about the [service] reporting area configuration is given as coordinates of the reporting area and the mobile station observes its coordinates and initiates a location update when entering into a new [service] reporting area.

44. (Amended Twice) [ A ] The radio access network for a mobile telecommunication system comprising [mobile subscribers,] mobile stations, at least one core network providing telecommunication services, and a radio access network, providing connections between the mobile stations and the core network, and in which system information concerning the location of the mobile station is stored in the radio access [system] network, [chracterized in that] the radio access [system is] network adapted to

use a location area configuration to track the location of the mobile station on the accuracy of one location area,

receive information on a [service] reporting area determined by the core network,

receive a location update from [a] the mobile station,

determine, based on the location update, whether or not the mobile station has moved out of [execeeded the border of] the [service] reporting area, and

send the core network a report if the mobile station has [exceeded the border] moved out of the reporting area.



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45. (Amended Twice) [ A ] The network element for a radio access network of a mobile telecommunication system comprising [mobile subscribers,] mobile stations, at least one core network providing telecommunication services, and a radio access network providing connections between the mobile stations and the core network, and in which system information concerning the location of the mobile station is stored in the radio access [system] network,

[characterized in that] the network element [is] adapted to

use a location area configuration to track the location of the mobile station on the accuracy of one location area,

receive information on a [service] reporting area determined by the core network,

receive a location update from [a] the mobile station,

determine, based on the location update, whether or not the mobile station has [exceeded the border of] moved out of the [service] reporting area, and

send the core network a report if the mobile station has [exceeded the border] moved out of the reporting area.



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46. (Amended Twice) [ A ] The core network for a mobile telecommunication system comprising [mobile subscribers, their] mobile stations, at least one core network providing connections between the mobile stations and the core network, and in which system information concerning the location of the mobile station is stored in [the] a radio access [system] network, and the radio access [system] network uses a location area configuration to track the location of the mobile station on the accuracy of one location area,

[characterized in that] the core network adapted to

determine a service area comprising at least one location area,

inform the radio access network of the [service] reporting area determined, and to

receive a report from the radio access [system] network when the mobile station has [exceeded the border of the reporting] moved out of the reporting area.



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